CASE STUDY

Resolution of Infertility, Healthy Pregnancy and Delivery in a Patient Previously Diagnosed with Polycystic Ovarian Syndrome: A Case Report and Selective Review of Literature

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Abstract

Objective: To describe the experience of a patient previously diagnosed with polycystic ovary syndrome (PCOS) while undergoing subluxation-based chiropractic care.

Clinical Features: A 29 year old female presented to the office following a recent diagnosis of PCOS. The diagnosis was made by her medical doctor following a 6 month time period of being unable to conceive. The patient had no other pain or symptomatic complaints at the time of initial presentation.

Intervention and Outcome: Surface electromyography, rolling thermography, and heart rate variability were utilized to localize and quantify nervous system dysfunction and subluxation. Chiropractic adjustments were delivered using Diversified technique. The details of 4 months of care are provided. The patient was able to conceive and deliver a healthy child during the course of care.

Conclusion: This case study shows that chiropractic care is beneficial for improving quality of life and other health parameters by removing vertebral subluxations, possibly leading to fertility and ability to become pregnant. More research is warranted in regards to PCOS, infertility, and chiropractic care.

Key Words: subluxation, polycystic ovary syndrome, pregnancy, quality of life, thermography, surface electromyography, heart rate variability, Diversified

Introduction

Infertility is often defined as a condition characterized by a dysfunction in the reproductive system that results in either the inability to conceive or the inability to carry a pregnancy for an entire term after one year of unprotected intercourse. It is a topic that continues to gain interest by many facets of the population due to its increased prevalence. It has been estimated that it affects 1 in 5 couples in the USA, with 60% of the infertility issues being attributed to the female.

Approximately 9.3 million women have sought out infertility services at some point during their lives, with the majority seeking medical intervention. Polycystic ovary syndrome (PCOS) is the most common cause of anovulatory infertility and affects approximately 6.6% of reproductive-aged women. Typical manifestations of PCOS includes hyperandrogenism, menstrual irregularities, obesity, and impaired glucose tolerance or possibly diabetes.

Chiropractic has been an increasingly popular choice amongst infertile women as an alternative treatment option. Many different chiropractic interventions have been attempted and recorded, from Torque Release Technique to Gonstead Technique to Sacro Occipital Technique and Directional Non-Force Technique. All techniques have been shown to

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correlate with a change in fertility during the duration of care, with varying age groups and durations of care in each case.1-4,6

Two studies have been published as it relates to chiropractic care, PCOS, and fertility.7,8 In all 5 cases undergoing NET care, the individual was able to conceive. Another commonly identified benefit of chiropractic care is an overall improvement with regards to quality of life. This improvement in quality of life was attributed to improved physiology and better nervous system functioning as a result of chiropractic care.9,10

This paper is intended to describe the chiropractic care received by a 29 year old female patient who was diagnosed with PCOS and had previously been unable to conceive. The focus of this paper is to explain the results of the detection, localization, and correction of the associated vertebral subluxations and explain the impact that subluxations have on human physiology and quality of life as it pertains to the subject.

A subluxation as defined by the Association of Chiropractic Colleges is a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health.11

Selective Review of Literature

Following a selective review of the literature with regards to infertility and chiropractic care, 15 peer reviewed research articles were found. As mentioned previously, a wide variety of chiropractic techniques were shown to be successful in the resolution of infertility, while numerous other concurrent conditions were positively affected as well.

Diversified technique was utilized in four of the articles. A total of six females underwent Diversified chiropractic care following a diagnosis of infertility. In a 2009 case series and review of literature by Alcantara, three females between the ages of 33 and 35 were diagnosed with infertility and vertebral subluxation. A combination of Diversified chiropractic adjustment, dietary modifications, and nutritional supplementation resulted in all three women being able to conceive.12

Another case study by Sims and Lee described a 23 year old woman with infertility, amenorrhea, low back pain, and leg numbness. Following 3 ½ months of care the patient had her first normal menstrual cycle and following 4 ½ months of care the patient discovered she was pregnant.13 Vilan in 2004 described the care of a 28 year old female with a chief complaint of migraines along with infertility. After three months of chiropractic care utilizing Diversified adjusting, both the migraines and infertility issues were resolved.14

A case by Kaminski in reported on a 31 year old female with a previously diagnosed “lazy reproductive system”. Along with Diversified adjusting, the patient was also adjusted using Torque Release Technique (TRT). The patient received Diversified adjustment for the first three months of care (21 visits) and then received TRT for four months (12 visits). The patient continued chiropractic wellness care, and nine months after beginning care, the patient was able to conceive and reported a successful full term pregnancy.15

The previous study by Kaminski used a combination of Diversified and TRT. Three other cases specifically utilized TRT. The first case by Bedell involved a 27 year old female who had suffered two previous miscarriages and was anovulatory for a period of nine months. After 60 days of care and 12 adjustments, she had a normal ovulatory cycle. She became pregnant after her 24th cycle.16

Another case by Anderson-Peacock described the resolution of infertility in two females patients undergoing TRT chiropractic care. Both women were considering artificial insemination but were able to conceive prior to the intervention.1 The final TRT case study by Nadler described the care of a pre-menopausal female who was deemed infertile according to her Jewish religious practice. She was having sluggish cycles accompanied with menorrhagia. Following five weeks of TRT care, she was able to resume sexual activity and she became pregnant.3

Another technique that is commonly used in chiropractic practice is Sacro Occipital Technique (SOT). Three case studies were found with regards to SOT and infertility. The first case by Rosen described the care of a 34 year old woman who had a previous child following in vitro fertilization. It was determined that she had sacroiliac joint instability and following 6 weeks of care, she was able to conceive naturally. SOT care continued throughout the duration of her pregnancy and she had a successful full term pregnancy.6

Another case by Blum described the care of a 32 year old female with infertility and chronic colitis. The patient did not make the doctor aware that she was infertile upon initial presentation. Following care, not only did her chronic colitis resolve, she also reported to the doctor that she had become pregnant after a period of over 7 years of trying to conceive.17

The final case using SOT was by Phillips who described the care of a 37 year old female who was able to conceive following chiropractic care. At the time of presentation, she was suffering from endometriosis and associated low back pain. She had gone through four unsuccessful in vitro fertilization attempts. After being under care for three months, she was able to produce a mature ovum for the first time in over three years. The patient was able to conceive and the pregnancy was carried to term.18

Other chiropractic techniques are not as commonly found in the research. The remaining five articles utilized varying techniques including Gonstead technique, Neuro Emotional Technique (NET), Network Spinal Analysis (NSA), and Directional Non-Force Technique (DNFT). Gonstead was utilized in a paper by Lyons that involved a 27 year old female athlete who presented with a 5 year history of infertility. After 1 month of care, the patient was able to conceive and sustain a successful pregnancy to term.2

Pollard et al described two different studies including 5 individual cases describing NET and infertility resolution. One of the studies looked at NET care and infertility associated with PCOS. They are the only references currently
available relating to chiropractic care and PCOS. In all 5 cases undergoing NET care, the individual was able to conceive.7,8

Another case study by Senzon reported a successful in vitro fertilization following an unsuccessful first attempt in a patient undergoing NSA care. The successful in vitro fertilization occurred approximately two months after the initiation of NSA care.9 Another infertility case study was described by Shelley that involved a 32 year old female who had been attempting to become pregnant for 2 ½ years prior to beginning DNFT chiropractic care. She had a successful in vitro fertilization three months after initiation of care.4

Case Report

History

The patient was a 29 year old female who had been diagnosed with PCOS and infertility following an inability to become pregnant for 6 months. She reported to the office in no apparent distress and reported no pain complaints or other symptomatology. The reason for the visit was that she heard that chiropractic may be able to help her become pregnant despite being diagnosed with PCOS. The visit to her medical doctor occurred the week prior to reporting to the chiropractic office and occurred because of her inability to become pregnant. It was discovered at that time that she had PCOS.

Examination

The initial chiropractic examination focused on specific instrumentation that is directed towards locating and quantifying levels of nervous system, skeletal system, and/or muscular system dysfunction. Technologies utilized were paraspinal surface electromyography (sEMG), rolling paraspinal thermography, and heart rate variability. Important for determining the function and balance of the paraspinal musculature, sEMG readings were recorded at 15 paired sites, including 4 in the cervical spine, 7 in the thoracic spine, 3 in the lumbar spine, and 1 at the sacrum.

Motor frequencies are set between 25-500 Hz bandpass. The specific spinal locations and bandpass were determined to be the optimal protocol for sEMG recordings.20 As opposed to an inter-examiner reliability coefficient between 0.07 and 0.20 for muscle tone assessment via palpation, sEMG has been shown to be far superior, with an estimated inter-examiner reliability range between 0.73 and 0.97, with an average of 0.88.21

Paraspinal rolling thermography was recorded from S1 to C1. Thermography readings compare skin temperature variations that relate to localized blood flow, which is directly affected by the autonomic nervous system. Abnormal thermography readings directly correlate with dysfunction in the neuromusculoskeletal system, both locally and globally.22

Lastly, heart rate variability was assessed to determine coordination between the sympathetic and parasympathetic nervous systems. Factors affecting heart rate variability includes skin conductance, pulse rate, and pulse pressure.23,24

The three instrumentation methods allow for a complete picture of the autonomic and somatic nervous systems. Each technology is given a score from 0-100, with 100 being the highest achievable score, indicating optimal functioning. Upon initial examination, sEMG was recorded at 91.88, thermography was recorded at 96.44, and heart rate variability was recorded at 93.35. Based upon this data, her nervous system was functioning at a high level prior to the initiation of chiropractic care.

In addition to the scans, physical examination revealed subluxations in the cervical, thoracic, lumbar spine and pelvis.

The patient was also given a self-assessment questionnaire that asked specific questions pertaining to her quality of life. The questions were quantified as either better, the same, or worse. Topics covered included sleep, exercise ability, water consumption, and nutritional choices. The questionnaire was given at each re-assessment, which occurred after one month of care and after 4 months of care.

Interventions

Approximately two weeks following her initial examination, the patient returned to the office to begin care. Over the course of 4 months, the patient was adjusted 26 times using Diversified technique. Diversified technique is characterized as a high velocity, low amplitude force into a segment of spinal dysfunction. More specifically, the dysfunctional segment is brought to tension by taking out any extraneous slack in the surrounding tissues in order to reach the elastic barrier. Once tension is achieved, the thrust is delivered, affecting the joints and associated soft tissue structures by reintroducing proper motion to the area of dysfunction.25

Each visit the patient was assessed using prone leg checks, static and motion palpation, and proprioceptive challenges. Upon removal of the associated indicators, the patient was deemed clear, or unsubluxated. Each visit 3-4 segments were adjusted. In particular, the sacrum was adjusted each visit using a drop table and the patient in the prone position. On most visits one segment was adjusted from each region of the spine. The segments that were adjusted each visit varied based upon the indicators of subluxations previously mentioned.

After two months of care, the patient was told by her medical doctor that she was in fact pregnant. He estimated the date of conception to have occurred at the approximate point of chiropractic care between visits 2 and 5. The patient was re-assessed at the one month mark and the 4 month mark.

Despite a decrease in instrumentation scores at the one month mark, particularly sEMG and thermography, the patient claimed an improvement in sleep quality, water consumption, exercise ability, and daily nutritional choices. At the 4 month mark, both sEMG and thermography scores had increased, with sEMG being at the highest level out of the three examinations. Specific data can be found below in Table 1.

At the time of the writing of this paper, the patient has a 10-month old baby girl after an all-natural labor. She describes the labor as being fast, as she started early labor around 4pm
on a Sunday afternoon, labored at home for several hours and went to the hospital at 11:15pm that same day. Her healthy 6 pound 7 oz. baby girl was born less than an hour later at 12:05am, with no interventions or medications involved. The mother reports that chiropractic helped her body be ready for a fast easy labor, and her recovery was within a couple of hours.

Table 1

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<th>Scan 1</th>
<th>Scan 2</th>
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<td>Heart Rate Variability</td>
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Discussion

As described previously, a subluxation is characterized by a dysfunction of the nervous system that results in widespread physiological changes and altered health status. There are numerous theories and models of subluxation that try to explain the science of the subluxation, and one model in particular closely explains the physiological manifestations seen in this case. The neurodystrophic model of subluxation, described by Kent, explains that neural dysfunction results in lowered tissue resistance, altering immune responses and the trophic function of the involved nerves. Research is continually growing with regards to the role of the nervous, immune, and endocrine systems in disease processes.

Due to the effects of subluxations on the autonomic nervous system and resultant end organ and system functioning, it is no surprise that correction of subluxations has been shown to demonstrate positive changes in autonomic nervous system balance and function. In particular, it has been shown that cervical and lumbar spine adjustments may result in parasympathetic stimulation, while thoracic adjustments may result in sympathetic stimulation. This would allow chiropractors to assess autonomic nervous system dysfunction and be able to address a particular region of the spine that influences the particular division of the autonomic nervous system. This could have a profound effect on the measurement and regulation of heart rate variability.

One study demonstrated the effectiveness of the chiropractic adjustment on heart rate variability, but no specific level of subluxation was addressed. Wherever the subluxation was located, it was adjusted and corrected. One note of interest is that out of 545 practitioners, 60.11% of them utilized diversified technique. However, there was no significant difference in heart rate variability changes between adjustment methods.

Since the correction of subluxations can lead to improved physiology, in particular better autonomic nervous system function and subsequent immune and endocrine system function, the question of quality of life comes into play. It has been proposed that quality of life is directly influenced by the function of the nervous and immune systems, which relates back to chiropractic care and the removal of subluxations. The previous statement has been supported by sEMG and thermography readings, self-report questionnaires, and visual analog scales.

Despite the positive correlations shown between subluxation correction and quality of life, there is an abundant number of variables that affect quality of life. Lifestyle choices play a significant role in quality of life determination, making it difficult to truly relate subluxation correction and improved quality of life at this point in time.

Conclusion

This case study reflects on the chiropractic care received by a female patient with PCOS who was previously unable to become pregnant. Following initiation of chiropractic care, the patient not only became pregnant, but also reported improvement in many facets of her life, including improved sleep, better dietary choices, increased water consumption, and an improvement in her ability to exercise.

While it cannot be stated that the patient became pregnant due to chiropractic care, it can be stated that chiropractic care can improve the functioning of the nervous system, resulting in better overall functioning and quality of life. More research is needed with regards to PCOS, infertility, and chiropractic care in order to form a more definitive stance on the relationship between them.

References